

**Notic of Allowability**

Application N .

10/672,775

Examiner

Lee Fineman

Applicant(s)

TAHARA ET AL.

Art Unit

2872

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to \_\_\_\_.
2. ☒ The allowed claim(s) is/are 1-5.
3. ☒ The drawings filed on 26 September 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \* Certified copies not received: \_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 1/6/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_.

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Bruce Londa on 24 January 2005.

The application has been amended as follows:

In the specification, amend page 6, line 29 as follows:

Figs. 5a-d illustrate[[s]] the laser-trapping technique using only a spectroscopy

In the specification, amend page 7, line 2 as follows:

Figs. 6a-b show[[s]] the effect of using a total reflection mirror, instead of a

In the specification, amend page 7, line 5 as follows:

Figs. 7a-c show[[s]] CCD camera images of an  $\alpha$ -perylene microcrystal.

In the specification, amend page 7, line 15 as follows:

Figs. 12a-b show[[s]] measurement results obtained by the femtosecond

Amend claim 3 as follows:

3. The time-resolved fluorescence microscope according to claim 2, further comprising:

Art Unit: 2872

a 1/2 wavelength plate disposed in the optical path of the sample excitation light

[[a control unit for controlling]]; and

a control unit for controlling the angle of the 1/2 wavelength plate and the optical-path length varying means in an interlocked manner.

Amend claim 4 as follows:

4. The time-resolved fluorescence microscope according to claim 2, wherein a collimator lens, an iris and a condenser lens are disposed between the non-linear optical element and the spectroscopy means, the collimator lens rendering the light that has passed through the non-linear optical element into parallel light, wherein the sum-frequency light produced by the non-linear optical element is separated before being incident on the spectroscopy means, the [[up-converted fluorescence signal]] sum-frequency light also [[go]] passing through [[on]] an optical band-pass filter which is [[put]] located at the entrance of the spectroscopy [[to make]] so that only the [[up-converted fluorescence signal]] sum-frequency light enters the spectroscopy.

***Allowable Subject Matter***

2. Claims 1-5 are allowed.

3. The following is an examiner's statement of reasons for allowance:

Claims 1-5 are allowable over the prior art for at least the reason that the prior art fails to teach and/or suggest a time-resolved fluorescence microscope system including a pin hole, stage,

Art Unit: 2872

objective, pulsed-laser emitting means, light-dividing means, optical-path length varying means, non-linear optical element producing sum frequency light, spectroscope, detector and recording means as set forth in the claimed combination.

Cudney et al., U.S. Patent No. 5,005,927 disclose in the figure a microscope system with some of the components like the stage, objective, laser emitting means, and non-linear optical element but does not have the pinhole, optical-path length varying means, spectroscope, detector and recording means as claimed.

Kane, U.S. Patent No. 6,219,142 B1 discloses in fig. 1 a non-linear optical element, optical-path length varying means, spectroscope, detector and recording means but does not include the microscope elements like the pin hole, stage, objective and pulsed-laser emitting means as claimed. Further, there would be no obvious motivation to one of ordinary skill in the art to add these elements.

Finally, although the non-patent reference, Tahei Tahara, Observation of ultra-fast molecule dynamics by femto second fluorescence spectroscopy, and its expansion into microscopic space, Riken Symposium, Molecular Ensemble 2002, p. 48-49 (2002), includes a figure of the instant invention and lists only one of the inventors as the author, it also includes with the figure a statement listing the names of both inventors of the instant application. Therefore, this reference is considered unavailable for a 102 rejection because the inventive entity is the same.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

Art Unit: 2872

fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lee Fineman whose telephone number is (571) 272-2313. The examiner can normally be reached on Monday - Friday 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



LAF

January 24, 2005



CLARK A. ROBINSON  
PRIMARY EXAMINER